

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 21

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MASAHIRO INOUE

Appeal No. 1998-1796
Application No. 08/408,154

HEARD: November 29, 2000

Before FLEMING, RUGGIERO, and BARRY, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-21, all of the claims pending in the present application. An amendment after final rejection filed April 24, 1997 was denied entry by the Examiner while a subsequent

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amendment after final rejection filed May 27, 1997 was approved for entry by the Examiner.

The claimed invention relates to a motor control device for an electric vehicle which has a motor powered by a rechargeable battery. During deceleration periods, regenerative energy produced by the vehicle motor is used to recharge the battery. Appellant indicates at pages 3-5 of the specification that excessive charging of the battery can be prevented by suppressing the amount of regenerative energy produced from the motor when either the battery voltage or charging current exceeds a predetermined value.

Claim 1 is illustrative of the invention and reads as follows:

1. A motor control device for an electric vehicle which has a motor powered by a rechargeable battery, said motor control device comprising:

voltage detecting means for detecting a battery voltage of said rechargeable battery; and

regenerative braking amount control means for suppressing an amount of regenerative braking energy supplied from said motor to said rechargeable battery by controlling said motor such that said battery voltage remains less than or equal to a predetermined voltage value, wherein said regenerative braking amount control means suppresses said amount of regenerative braking energy when said battery voltage exceeds a first predetermined voltage.

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The Examiner relies on the following prior art:

Kamaike 1985	4,554,999	Nov. 26,
Sun et al. (Sun) 1994	5,359,308	Oct. 25,

(filed Oct. 27, 1993)

Claims 1-21 stand finally rejected under 35 U.S.C. § 103
as being unpatentable over the combination of Kamaike and Sun.

Rather than reiterate the arguments of Appellant and the
Examiner, reference is made to the Briefs¹ and Answer for the
respective details.

OPINION

We have carefully considered the subject matter on
appeal, the rejection advanced by the Examiner, the arguments
in support of the rejection and the evidence of obviousness
relied upon by the Examiner as support for the rejection. We
have, likewise, reviewed and taken into consideration, in

¹ The Appeal Brief was filed September 24, 1997. In
response to the Examiner's Answer dated October 29, 1997, a
Reply Brief was filed December 24, 1997 which was acknowledged
and entered by the Examiner without further comment as
indicated in the communication dated January 15, 1998.

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reaching our decision, Appellant's arguments set forth in the Briefs along with the

Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention set forth in claims 1-21. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837

F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1,

17, 148 USPQ 459, 467 (1966), and to provide a reason why one

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having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in

the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825

(1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.,

776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed.

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Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to independent claims 1 and 2, the sole independent claims on appeal, Appellant's primary argument in the Briefs centers on the contention that neither of the Kamaike or Sun references discloses the claimed "...control means for suppressing an amount of regenerative braking energy supplied from said motor to said rechargeable battery by controlling said motor..." under certain specified conditions, i.e. excess voltage or charging current. After careful review of the Kamaike and Sun references in light of the arguments of record, we are in agreement with Appellant's position as stated in the Briefs.

Our interpretation of the disclosures of Kamaike and Sun coincides with that of Appellant, i.e. no control of a vehicle

motor is provided which operates to suppress the regenerative energy supplied to a battery. In Kamaike, as illustrated in Figure 3 and described beginning at column 3, line 56, the control circuitry 14 operates to control the amount of power supplied to battery 4 in order to equalize the charging and discharging rate. We find no control of motor 6, however, which operates to suppress the amount of regenerative energy supplied to battery 4 as claimed.

Similarly, in Sun, we find no suppression of supplied regenerative energy from motor/generator 16 to battery 22. While the motor/generator 16 operates to rapidly charge and discharge the SMES energy storage device 20, which in turn provides a slow charge and discharge to battery 22, this battery charge from SMES 20 occurs without limit (Sun, column 8, lines 25-28). Further, although Sun suggests a battery charge limit (column 8, line 22-24), this passage refers to the operation of charger generator 34 which is controlled by gasoline engine 10 and not the battery powered motor generator 16.

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In view of the above discussion, it is our view that, since all of the limitations of the appealed claims are not taught or suggested by the prior art, the Examiner has not established a prima facie case of obviousness. Accordingly, the 35 U.S.C.

§ 103 rejection of independent claims 1 and 2, as well as claims 3-21 dependent thereon, cannot be sustained.

Therefore, the decision of the Examiner rejecting claims 1-21 is reversed.

REVERSED

MICHAEL R. FLEMING)	
Administrative Patent Judge)	
)	
)	
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)	BOARD OF PATENT
JOSEPH F. RUGGIERO)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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LANCE LEONARD BARRY)	

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Administrative Patent Judge)

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APJ FLEMING

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DECISION: REVERSED

Send Reference(s): Yes No
or Translation (s)

Panel Change: Yes No

Index Sheet-2901 Rejection(s):

Prepared: July 3, 2001

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK

DISK (FOIA) / REPORT